

CLAIMS

1. A phantom powered capacitor microphone, comprising:
a microphone capsule including a vibrating plate and a fixed electrode;
5 a vacuum tube used as an impedance converter of the microphone capsule;
a heater power generator for generating the heater voltage of the vacuum tube,
said heater power generator including one or more switched capacitor voltage
converters and generating the heater voltage of the vacuum tube by utilizing a
part of the voltage supplied from a phantom power supply;
10 an input circuit connected to the input of the heater power generator for
stabilizing the input voltage of the heater power generator; and
a constant current circuit receiving an electric current from the phantom power
supply and flowing a stabilized current to a plate of the vacuum tube and to the
input circuit.
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2. A phantom powered capacitor microphone according to claim 1, wherein the
vacuum tube has small power consumption and can be powered by a dry battery.
3. A phantom powered capacitor microphone according to claim 1, wherein the
20 input circuit includes a zener diode, a current limit resistor and a smoothing
capacitor.
4. A phantom powered capacitor microphone according to claim 1, wherein the
constant current circuit includes a first and a second constant current diodes, the
25 one ends of the first and the second constant current diodes connected,
respectively, to the hot side (H) and the cold side (C) of the phantom power supply,

the other ends of the first and the second constant current diodes connected to each other, the connecting point connected to the plate side of the vacuum tube and the input circuit.

- 5 5. A method of using a vacuum tube in a phantom powered capacitor microphone, comprising the steps of:
providing a dry battery powered vacuum tube having low power consumption as
an impedance converter of a microphone capsule;
generating the heater voltage of the vacuum tube by a heater power generator
10 including one or more switched capacitor voltage converters by utilizing a part of
the voltage supplied from a phantom power supply;
stabilizing the heater voltage of the vacuum tube by an input circuit connected to
the input of the heater power generator; and
stabilizing current flowing to the plate of the vacuum tube and the input circuit by
15 a constant current circuit receiving an electric current from the phantom power
supply.

6. A method of using a vacuum tube in a phantom powered capacitor
microphone according to claim 5, wherein the input circuit includes a zener diode,
20 a current limit resistor and a smoothing capacitor.

7. A method of using a vacuum tube in a phantom powered capacitor
microphone according to claim 5, wherein the constant current circuit includes a
first and a second constant current diodes, the one ends of the first and the second
25 constant current diodes connected, respectively, to the hot side (H) and the cold
side (C) of the phantom power supply, the other ends of the first and the second

constant current diodes connected to each other, the connecting point connected to the plate side of the vacuum tube and the input circuit.

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